Castlemaine Naturalist

September 2024

Vol. 49.8 #534

Monthly newsletter of the Castlemaine Field Naturalists Club Inc.

A Red Fire Ant
Photo: Invasive Species Council

Red Fire Ants

Euan Moore

August was the last of our winter monthly meetings via Zoom. Unfortunately our intended speaker was ill and unable to present his talk however he did provide a video that covered much of what he wanted to talk about.

Red Fire Ants, *Solenopsis invicta*, are one of the world's most serious invasive species. They are native to the Pantanal Region of south-west Brazil and Paraguay where they live in seasonally flooded grasslands and woodlands. They are well adapted to both floods and drought. All of mainland Australia and approximately 80% of Tasmania is susceptible to invasion.

Red Fire Ants are dangerous to humans, the natural environment, agriculture and horticulture. In the United States where they have been present since the 1930s (www.cdc.gov/niosh/topics/insects/fireants.html) they cause an estimated US$5 billion damage annually. Where they are established, 30-60% of the human population will be stung annually https://en.wikipedia.org/wiki/Fire_ant . Up to 2% of those stung will experience potentially deadly anaphylaxis. If they become naturalised in Australia, in addition to the human impacts they will render many of our parks and gardens unusable and drive some native wildlife closer to extinction. It is estimated that the economic cost would be approximately $2 billion per annum.

Over the past 25 years there have been several outbreaks of Red Fire Ants in Australia (Table 1).

Location	Year	Extent	Current status
Port of Brisbane	2001	470 known colonies spread over 8,300 hectares	Eradicated (2005)
Richlands/South East Queensland	2001	Initially discovered in Wacol and spread to more than 600,000 hectares from north of Brisbane to the Gold Coast	Eradication underway
Yarwun, Gladstone	2006	14 known colonies (but possibly 100), more than 1,000 hectares treated	Eradicated (2007)
Port of Gladstone	2013	80 known colonies spread over 4,600 hectares	Eradicated (2016)
Port Botany, Sydney	2014	1 colony detected	Eradicated (2016)
Brisbane Airport	2015	At least 1 colony, genetically distinct	Eradicated (2019)
Port of Brisbane	2016	At least 1 colony, genetically distinct	Eradicated (2019)
Port of Fremantle, Western Australia	2019	At least 1 colony, genetically distinct	Eradicated (2023)

Table 1: Red Fire Ant outbreaks in Australia. Source: Invasive Species Council https://invasives.org.au/

All have been eradicated except the current outbreak around Brisbane and the Gold Coast which is subject to major control efforts. Past eradications prove that eradication is possible when sufficient resources and determination are applied to the task.

For eradication to occur it is essential that further spread is stopped. This requires stringent quarantine and cooperation from the community to ensure that fire ants are not spread by the transport of garden materials and plants, the movement of soil and the movement of other items such as shipping containers that the ants have colonised. These ants may also be transported by floods when they form rafts that can wash downstream. A major risk is that they become established in the headwaters of the Murray-Darling Basin and can then easily spread to much of eastern Australia.

In South-east Queensland where Red Fire Ants have become established there is an extensive baiting program. The baits consist of corn (maize) grit soaked in soy bean oil and an insect growth regulator pyriproxyfen or s-methoprene. Pyriproxyfen is the same chemical as used in pet flea collars and for treating whitefly and scale in horticultural crops while s-methoprene is used for treating potable drinking water to prevent mosquito borne diseases. https://www.fireants.org.au/training-and-tools/factsheets/all-resources/broadcast-fire-ant-treatment

Fire ants do not occur in Victoria and we fervently hope that they never do. Given the potential impact we should all be aware of this possibility. It would only take one truck with a colony hidden in its load for them to reach this state.

Report fire ants

If you see suspect ants or nests (it doesn't have to be on your property), take a photo and let the National Fire Ant Eradication program know immediately at www.fireants.org.au or call 13 25 23.

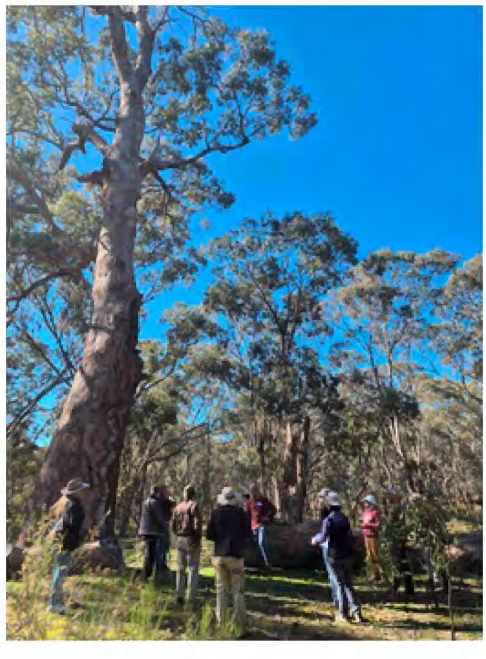
References and further information:

National Fire Ant Eradication Program: www.fireants.org.au
Invasive Species Council: https://invasives.org.au/

Fire Ant nests may be dome shaped mounds or like patches of bare soil with no obvious entry point. Photo: National Fire Ant Eradication program

Fire ants form rafts to survive flooding, which will hasten their spread.
Photo: Jack Gough, Invasive Species Council

"Restoring Leaky Landscapes" – CFNC Excursion, Saturday 10th August



On a glorious Saturday afternoon, we were joined by friends from the staff and council of Connecting Country to visit the Central Victorian Biolinks Alliance Spring Plains project site, Heathcote. We first went to view an enormous Grey Box (right) in the Spring Plains Nature Conservation Reserve to show us just what the trees would have looked like before the devastation wrought by years of land clearing for agriculture and mining, firewood collection and inappropriate burn regimens. Here, Executive Director, Dr Sophie Bickford, introduced us to the Biolinks Alliance and the genesis of the Spring Plains project which aims to restore the structure and function of the degraded Spring Plains woodland. Dr Paul Foreman was instrumental in designing and instigating the project.

The Biolinks Alliance is an umbrella not-for-profit organisation that works in collaboration with governments, communities, landholders and Traditional Owners

on "local to landscape" repair projects in Central Victoria. In the case of Spring Plains, Biolinks Alliance has formed a partnership with the local Heathcote community to trial different, scientifically backed, intervention strategies to retain water in the ground rather than having it rush down into gullies causing further erosion, loss of the soil's organic layer and potentially, downstream flooding.

Our guide for the afternoon was Cameron O'Mara, the Heathcote Local to Landscape Facilitator with Biolinks Alliance. He and Biolinks ecologist Dr Chris Pocknee are currently managing the on-ground works for the project. Cam told us that the large Grey Box at our first viewpoint was estimated to be several hundred years old! Using a drone he had been able to view the tree from above and could see large hollows suitable for owls and cockatoos. These hollows take at least 100-200 years to form. He pointed out that the branches of this old tree were more horizontal than those of the nearby less mature, regrowth trees, thus providing better roosting sites for birds and ease of use for animals.

An exclusion plot. Photo: Lou Citroen

We then drove to the control and test sites for the project. These sites were matched for vegetation and area (about 138ha). At the control site (White's Gully), Cam showed us an example of a fenced 4x4m exclusion plot that had been constructed to assess the impact of grazing animals, especially kangaroos. Fences were made of about a 12 cm mesh with added chicken wire at the bottom to stop rabbits for some plots. Vegetation cover of the fenced plots is being assessed and compared with that for a nearby unfenced area of the same size marked out with corner flags. Plots such as these have been established on both sites. The benefits of the exclusion fence were already obvious, but the interesting question will be whether the test site plots show differences from the control site plots over time.

Moving on over the ridge to the next gully (Peter's Gully), we came to the test site. Here Cam explained the different watershed restoration measures being trialled. Firstly, patches of thinning of the dense regrowth of trees, many coppiced, which had resulted from the past extensive clearing. The goal of ecological thinning is to promote maturation and health of the remaining trees. Regular and abundant flowering of these trees will provide important sustenance for the critically endangered Swift Parrot which migrates through this area.

Importantly, the felled trees were left on the ground to replenish the organic layer as well as to provide habitat and shelter for a host of invertebrates, reptiles and ground-dwelling mammals and birds. The logs and the litter they trap also play an important role in slowing down the water flow into the gullies. Analysis of the fuel load pre- and post-thinning has shown that leaving the woody debris on the ground does not increase the fuel load.

The next treatment Cam showed us was making rip-lines along contours of the land using a Yeomans-style plough. Over 70km of rip-lines have been made over the test site. By breaking the hydrophobic soil crust, water is then able to penetrate and soak into the ground. While some seeds would wash down into these lines and germinate, direct seeding with locally sourced seeds such as Wallaby Grass was also used to further promote establishment of a ground cover and shrub layer, both of which are at present scarce. Development of an understory and thus restoration of a "woodland" structure is also aided by the increased light following thinning.

Another strategy to decrease the energy of the water flow down the slopes during heavy rainfall events was to construct small weirs across the Peter's Gully creek-line. Over 20 weirs have been constructed using logs supported by short posts with earth pushed up against them. The weirs also trap leaf litter and together these cause water to percolate slowly through and around the weirs, increasing hydration and productivity of the surrounding land.

The final topic for discussion and viewing was the monitoring program, critical for demonstrating project outcomes and impacts. In addition to the vegetation cover assessments mentioned earlier, test and control sites are being compared using regular standard bird surveys, spotlighting for nocturnal animals and invertebrate surveys using moth sheets. 100 nest boxes had been installed over each of the test and control sites. Fortunately, the use of a long-handled pole camera enables a quick and less intrusive check of each box every 6 months. We were thrilled to see a family of Krefft's Gliders in the box that we checked with Cam. Local volunteers are assisting the Biolinks team with these tasks and John Walter provides his invertebrate expertise.

Photo: Biolinks Alliance

All photos by Jenny Rolland unless otherwise stated

In final discussions, we learnt that it had taken about three years to obtain the necessary approvals and consultation including with government, the local community and Traditional Owners. Over this time funding was also obtained from the Ross Trust, the Ian Potter Foundation, Landcare Victoria, WIRES and private donations, allowing the leaky landscape treatments to be implemented and the important monitoring program commenced. With the current paucity of Government grants for environmental work and limited philanthropic funding available, Cam stressed the importance of private donations for ensuring that the critical monitoring work continues.

The Spring Plains project is a pilot watershed repair project and insights from its results are being shared and adapted for use in other goldfields landscapes to help build climate resilience and biodiversity at increased scale and speed. Further information on how you can help this and other Biolinks Alliance projects either as a volunteer or donor can be found on their website (biolinksalliance.org.au).

Jenny Rolland

The Powerful Owls of Castlemaine Botanical Gardens

Powerful Owls have been roosting and nesting in and around the CBG for decades – not every year, but most. Last year they raised a single chick; a second emerged 3 weeks after the first but did not survive. The new young adult was last seen early in February this year before leaving to find its own territory. After a short absence, the CBG pair [Fig 1] settled into a routine of roosting in their favourite Stone Pine, hunting for possums or other prey. [Fig 2]

Fig. 1

Fig. 2

By the end of March, early in the evenings, they seemed to be getting amorous and by early April short sessions of mating behaviour were observed. They were visiting the nest hollow used last year – getting it ready? From 25th April the female appeared to have started brooding eggs, emerging early evening for 20 minutes or

so to accept food from the male. This seemed to be via regurgitation rather than passing over chunks of prey. The eggs usually hatch after about 38 days, and the chicks fledge after a further 55 or so – 13 weeks in all. Our first sighting of the chicks was on 18th July [Fig 3], and each night they were more adventurous [Fig 4].

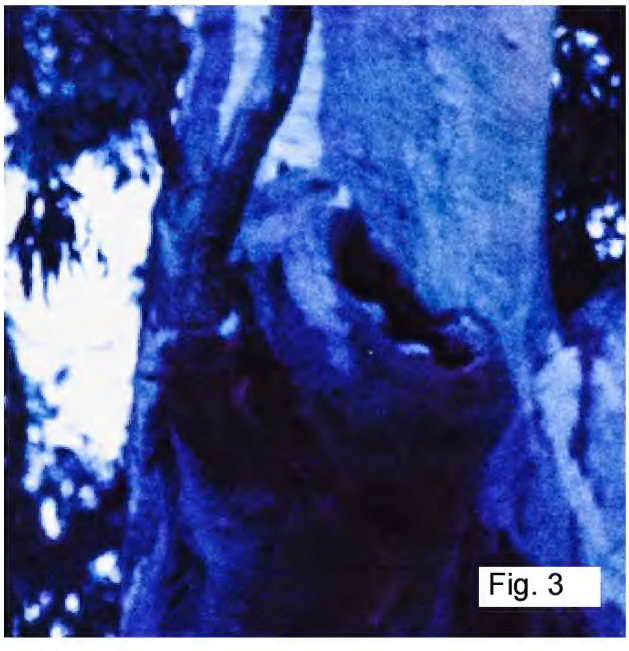


Fig. 3

Fig. 4

After several evenings climbing right out of the hollow and flexing its wings, the first chick flew to an adjacent red gum on 28th July [Fig 5]; the second followed by 30th. The family stayed in the red gum for a week, and on 7th August all four were in the "traditional" Stone Pine in the Gardens, ready to feast on a currawong [Fig 6].

Fig. 5

Fig. 6

Since then they have moved between several tall pines north of the playground. The young are very curious, often watching the passing parade of their human admirers during the day [Fig 7].

This note is based on observations since January by Tim Darling, Rachael Findlay, Win Jodell, and Peter and Rosemary Turner. One or more of the team can usually be seen around dusk most nights, and during the day, monitoring the action until it's too dark.

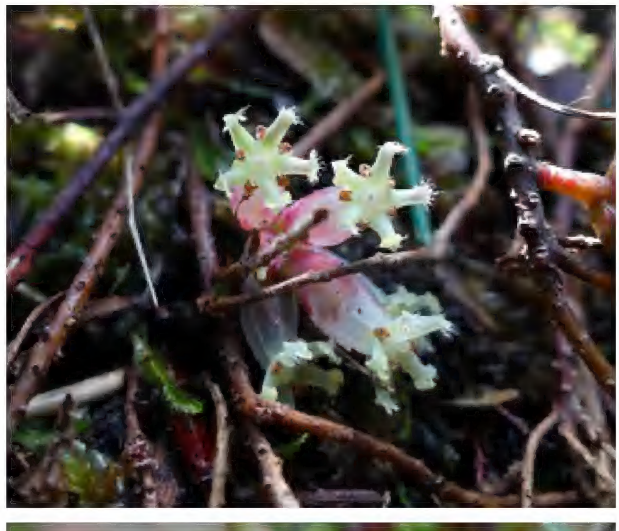
Peter Turner

Fig. 7

Photo Observations

The following are a selection from many presented at the August meeting.

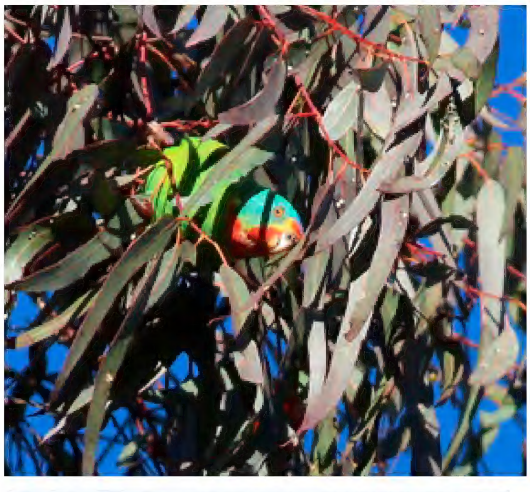
Mez Woodward



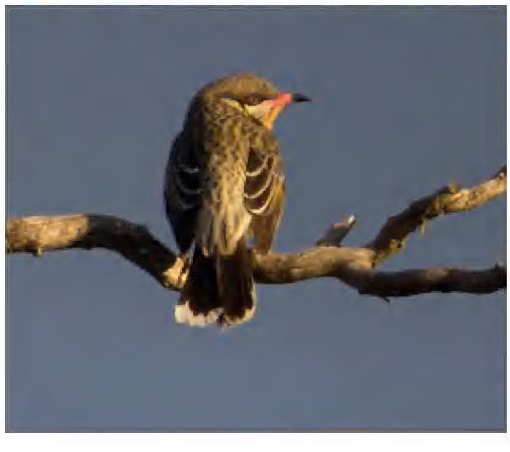
Above: Owlet Night-jar
Right: Honey Pots *Acrotriche serrulata*

Kerrie Jennings

Above: Kerrie showed an amusing sequence - a Nankeen Kestrel gorging itself on a small lamb carcass is interrupted by an orphaned lamb looking for company. Both are reluctant to leave for different reasons.



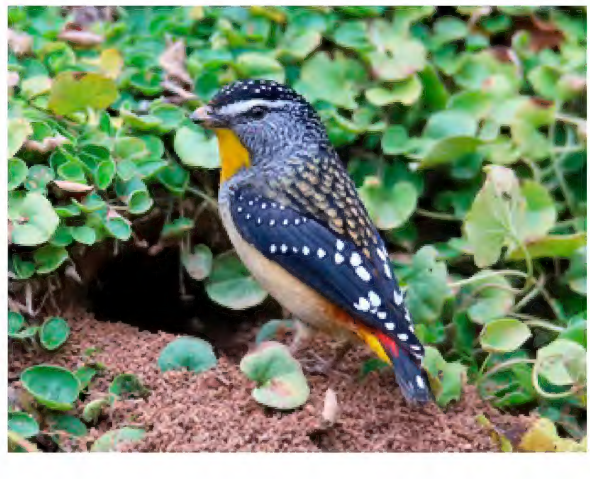
Swift Parrots - sighted this year in three different but 'nearby' locations, indicating how the birds might be using the remaining patches of eucalypts across a farming landscape. Numbers were between 2 - 19 individuals and notably, all were on private land, not on Swift Parrot survey sites or within the survey period, reminding us of the need to keep our eyes peeled at all times and also of the importance of 'patchy' habitat that may not be 'ideal' but still vitally important to the survival of a critically endangered species.



Spiny-cheeked Honeyeater - spotted during a Birds on Farms regular survey: Seldom recorded locally as it's usually an arid country nomadic species, sporting a bright pink bill with a grey/blue tip and bare skin beneath the eye. Known to appreciate a broad diet, this particular pair of Spiny-cheeked Honeyeaters were using a dead tree alongside a farm dam to launch into the air chasing insects repeatedly. Particularly noticeable were their regular 'gurgling' note calls that were quite different to anything else nearby.

Lou Citroen

A pair of Spotted Pardalotes tending a well hidden burrow. Right: the handsome male.



Peter Turner

This is a
Strategic Fuel Break
The delivery and maintenance of these breaks is important for protecting communities, catchments and the environment from the impacts of bushfire.

On a U3A Bushwalk in Muckleford Nature Conservation Reserve 28/8/24, the impact of the April planned burn was extensive – 1. Sign on a tree by the dam at Red White and Blue. 2. Looking east from the dam wall. 3. Within the Nature Reserve.

Flowering plants -

In burnt area: Scented Sundew *Drosera aberrans,* Blue Fingers *Cyanicula caerulea,* Pink Fingers (Also a White one) *Caladenia carnea.*

In the unburnt areas of the NCR, north of the burn area: Golden Wattle *Acacia pycnantha,* Rough Wattle *A. aspera,* several single and a patch of Blue Fingers, Gold-dust Wattle *A. acinacea,* Downy Grevillea *G. alpina,* Slender rice Flower *Pimelea linifolia.*

At the mine site on Tunnel Road: Billy Button *Craspedia variabilis,* Dwarf Greenhood *Pterostylis nana (in the cutting leading to tunnel),* Leopard Orchid *Diuris pardina,* Fairy Waxflower *Philotheca verrucosa,* Pink Bells *Tetratheca ciliata.*

Cathrine Harboe-Ree

Beaked Earth Star
Geastrum tenuipes
(Geastrum pectinatum)

Little Whip Snake (*Suta flagellum*)
& native cockroaches
(*Drymaplaneta* sp.)

Geraldine Harris

Krefft's Gliders (Sugar glider)
Petaurus breviceps
occupying a nest box

Disclaimer: The opinions expressed in this newsletter are those of the contributors and not necessarily those of the club

COMING EVENTS

13-15 September – Grampians Weekend

A weekend of excursions has been arranged in the Northern Grampians, based at 'Old Dadswell Town' accommodation village. Bookings are full but contact Geoff Harris (geoffreyharris@fastmail.fm or 0418 392183) for a possible late registration.

Wednesday Wildflower Wanders

During September each year, when so many of the local plants in the Box Ironbark woodlands of our region are flowering, we arrange late afternoon excursions to nearby sites to enjoy the wildflowers.

Our first WWW is on **4 Sept** and will be on a loop track in Kalimna Park with Peter and Rosemary Turner.

Meet in the Car Park north of the Railway Goods Shed in Kennedy St ready to leave at **4 pm**, returning by about 5.30 pm.

Bring: Clean, sturdy shoes and a walking pole if you usually use one.

Other WWWs are as follows:

11 Sept – Sinclairs Lane/Muckleford with Judy and Philip Hopley

18 Sept – The Monk with Noel Young

25 Sept – Walmer with Geraldine Harris

20-23 September - Great Southern Bioblitz

After a wonderfully successful 2023 effort Castlemaine Field Naturalists Club is again hosting the Great Southern Bioblitz for the Castlemaine region. GSB24 runs from September 20th to 23rd 2024 with citizen scientists from across the Southern Hemisphere photographing and audio recording as many living species as possible within their regions.

Join us to help showcase all the amazing forms of wildlife living in our own Castlemaine region and help build the scientific databases that increase knowledge and understanding of our bushlands. These annual Bioblitz surveys collect vast amounts of data on species and distribution that would otherwise be unavailable.

To join the fun take photographs or make sound recordings of flora, fauna and fungi between 20th and 23rd. You have until 7th October 2024 to upload them to iNaturalist from your phone app or computer. iNaturalist is a global databank for observations of biodiversity made by scientists, naturalists and citizen scientists. Then skilled naturalists, scientists and other citizen scientists will help you identify as many of your observations as possible.

Extra GSB events – see notice on our website for more details

Great Southern Bioblitz 2024 – Castlemaine Field Naturalists Club

Sunday 8th Sept at 10:30am: Photography Walk: Optimise your efforts for iNaturalist.

Wednesday 11th Sept at 7pm: Beginners Guide to iNaturalist (Bookings required)

Friday 20th Sept from 7pm: Moth Night in the CBG

Sunday 22nd Sept. 1:30-3:30pm: Bioblitz Afternoon in the Bush. All welcome.

Castlemaine Field Naturalists Club

PROGRAM

Please note, there will not be a monthly meeting in September or a Saturday excursion. Instead, there is a weekend camp at the Grampians, Wednesday Wildflower Wanders and the Great Southern Bioblitz.

See "Coming Events" page for more details about September events.

Fri Sept 13 - Sun Sept 15, Grampians weekend – contact Geoff Harris geoffreyharris@fastmail.fm or 0418 392183.

Wed Sept 4, 11, 18, 25 at 4pm, Wednesday Wildflower Wanders

***New meeting point for excursions*:** Car park north of the Railway Goods Shed, Kennedy St.

Fri Sept 20 – Mon Sept 23, Great Southern Bioblitz.

Fri Oct 11, Meeting 7.30pm (Uniting Church Hall, Lyttleton St.) Speaker: Euan Moore "Birds on islands: How they change over time – a NZ case study". Combined CFNC Birdlife Castlemaine District meeting.

Sat Oct 19, Excursion 1.30pm, Leader: Ian Higgins "A walk in Castle Hill near Maldon, an area of great biodiversity".

Fri 25 – Sun 27 Oct, Spring SEANA, Marysville.

Visitors are welcome at club activities

Castlemaine Naturalist - email newsletter material to: newsletter.cfnc@gmail.com

*Deadline for the October edition is 27th of September.

Subscriptions for 2024 (Membership forms on CFNC website, fees due by 1st April)
Ordinary membership: Single $35, Family $50
Pensioner or student: Single $25, Family $30
Subscription includes the monthly newsletter, Castlemaine Naturalist

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